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REMARKS

This application has been carefully reviewed in light of the Office Action dated January 3, 2007. Claims 1 to 4 and 6 are in the application, of which Claim 1 is independent. Reconsideration and further examination are respectfully requested.

Regarding a formal matter, it is respectfully requested that the Examiner acknowledge Applicant's claim to foreign priority, as well as the USPTO's receipt of the certified copy of the priority document.

Claims 1 to 4 and 7 were rejected under 35 U.S.C. § 102(e) over U.S. Patent Publication No. 2002/0167013 (Iwasaki). Claim 6 was rejected under 35 U.S.C. § 103(a) over Iwasaki in view of U.S. Patent Publication No. 2001/0032984 (Uchida). Reconsideration and withdrawal of the rejections are respectfully requested.

The present invention generally concerns a circuit board including a sheet-shaped optical transmission medium, a plurality of optical I/O devices, and a reconfigurable integrated circuit connected to the plurality of optical I/O devices and a plurality of electronic devices. In accordance with a signal transmitted by a mediating device, the reconfigurable integrated circuit changes a mode of connection among the plurality of electronic devices and the plurality of optical I/O devices.

By virtue of this arrangement, in which the reconfigurable integrated circuit can change a mode of connection among the plurality of electronic devices and the plurality of optical I/O devices, it may ordinarily be possible to reduce the number of potentially expensive optical I/O devices required for the circuit, since each electronic device does not necessarily require its own optical I/O device.

Referring specifically to claim language, independent Claim 1 is directed to a circuit board. The circuit board includes a sheet-shaped optical transmission medium for transmitting optical signals, a plurality of optical I/O devices connected to the sheet-shaped optical transmission medium, and a reconfigurable integrated circuit connected to the plurality of optical I/O devices and a plurality of electronic devices. The circuit board further includes a mediating device for transmitting a signal to the reconfigurable integrated circuit such that the reconfigurable integrated circuit changes a mode of connection among the plurality of electronic devices and the plurality of optical I/O devices in accordance with the signal.

The applied art is not seen to disclose or suggest the features of the present invention, and in particular is not seen to disclose or suggest at least the feature of a reconfigurable integrated circuit which changes a mode of connection among a plurality of electronic devices and a plurality of optical I/O devices, in accordance with a signal transmitted by a mediating device.

As understood by Applicant, Iwasaki is directed to an optoelectronic substrate which comprises an electronic device, an optical device, an electric wiring connected to the electronic device, an optical wiring layer, and a base plate, wherein the optical wiring layer is employed as an insulating layer between the base plate and the electric wiring. See Iwasaki, Abstract.

Page 2 of the Office Action asserts that Iwasaki (Figure 6, item 603) discloses a reconfigurable integrated circuit. Page 3 of the Office Action concedes that Iwasaki does not specifically describe a mediating device for causing an integrated circuit

to change the mode of transmission between "the I/O devices", but asserts that "such a mediating device is inherent to the Iwasaki et al. device (as either a separate component or integrated with the described components) in order for the described signals to be transmitted over electric wires or the optical wiring as described (see paragraph 0168)".

Applicant respectfully disagrees. To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in that which is being described in the reference. See MPEP § 2112. It is respectfully submitted that the Office Action does not provide such evidence.

In particular, in a chip which can transmit both electrically and optically, there is not an inherent necessity for a mediating device which can transmit a signal by which the chip changes a mode of connection. There are innumerable other possibilities, such as a chip that transmits electrically and optically at all times, based on the type of input signal it receives. Once other possibilities are admitted, the holding of inherency cannot be maintained.

In this regard, page 2 of the Office Action identifies Iwasaki's IC 603 as a reconfigurable integrated circuit. However, as understood by Applicant, Iwasaki's IC 603 is simply an optical I/O device. See Iwasaki, paragraph [0166]. There is not seen to be any suggestion that Iwasaki's IC 603 is reconfigurable at all, much less that it can change a mode of connection. Since IC 603 cannot change a mode of connection, it is also clear that it cannot do so in accordance with a signal from a mediating device. Moreover, Applicant respectfully submits that such a feature is not necessarily present in Iwasaki simply because Iwasaki's IC 603 might, by itself, be able to transmit both optical and electrical signals.

Accordingly, it is believed that a rejection based on inherency can not be maintained.

Ushida has been reviewed and is not seen to remedy the above-noted deficiencies of Iwasaki.

Accordingly, independent Claim 1 is believed to be allowable, and such action is respectfully requested.

The other claims in the application are each dependent from Claim 1 and are believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicant's undersigned attorney may be reached in our Costa Mesa, California office by telephone at (714) 540-8700. All correspondence should be directed to our address given below.

Respectfully submitted,



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